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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

Applicant(s): Sayeed et al.
Case: 18
Serial No.: 09/826,399
Filing Date: April 3, 2001
Group: 2634
Examiner: Ted M. Wang

I hereby certify that this paper is being deposited on this date with the U.S. Postal Service as first class mail addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Signature:  Date: February 28, 2006

Title: Method and Apparatus for Adjusting the Gain of an IF
Amplifier in a Communication System

TRANSMITTAL OF REPLY BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith are the following documents relating to the above-identified patent application:

(1) Reply Brief.

In the event of non-payment or improper payment of a required fee, the Commissioner is authorized to charge or to credit **Deposit Account No. 50-0762** as required to correct the error. A duplicate copy of this letter and Reply Brief are enclosed.

Respectfully submitted,



Kevin M. Mason
Attorney for Applicants
Reg. No. 36,597
Ryan, Mason & Lewis, LLP
1300 Post Road, Suite 205
Fairfield, CT 06824
(203) 255-6560

Date: February 28, 2006



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

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Applicant(s): Zulfiqar Sayeed
Case: 18
Serial No.: 09/826,399
Filing Date: April 3, 2001
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Examiner: Ted M. Wang

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REPLY BRIEF

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P.O. Box 1450
Alexandria, VA 22313-1450

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Sir:

Appellant hereby replies to the Examiner's Answer, mailed December 30, 30 2005 (referred to hereinafter as "the Examiner's Answer"), in an Appeal of the final rejection of claims 1-9 in the above-identified patent application.

REAL PARTY IN INTEREST

A statement identifying the real party in interest is contained in 35 Appellant's Appeal Brief.

RELATED APPEALS AND INTERFERENCES

A statement identifying related appeals is contained in Appellant's Appeal Brief.

STATUS OF CLAIMS

A statement identifying the status of the claims is contained in Appellant's Appeal Brief.

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STATUS OF AMENDMENTS

A statement identifying the status of the amendments is contained in Appellant's Appeal Brief.

SUMMARY OF CLAIMED SUBJECT MATTER

10 A Summary of the Invention is contained in Appellant's Appeal Brief.

STATEMENT OF GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A statement identifying the issues presented for review is contained in Appellant's Appeal Brief.

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CLAIMS APPEALED

A copy of the appealed claims is contained in an Appendix of Appellant's Appeal Brief.

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ARGUMENT

Independent Claim 1

Independent claim 1 was rejected under 35 U.S.C. §102(e) as being anticipated by Earls et al. Regarding claim 1, the Examiner asserts that Earls discloses adjusting said IF gain value (FIG. 1, element 22, and col. 3, lines 1-42) based on said 25 monitored RF amplifier gain adjustment (FIG. 1, elements 14, 22, 26, 28, and 30; FIG. 3; and col. 3, line 17, to col. 4, line 4) by an amount approximately opposite to said RF gain value (FIG. 1, elements 24 and 30; and col. 3, line 1, to col. 4, line 4).

Applicant notes that, in the text cited by the Examiner, Earls teaches that the gains (IF and Wideband) are set during three specific steps (see, FIG. 3). Regarding 30 the first step (entitled "SET WIDEBAND GAIN"), Earls teaches that

the controller 30 reads the output from the wideband detector 26, 28 and *sets a gain control value for the wideband variable gain input amplifier 14 in order to provide a nominal amplitude of the RF signal to the mixer stage 18.*

5 (Col. 3, lines 38-42.)

Regarding the second step (entitled “SET IF GAIN”), Earls teaches that

the controller 30 reads the output from the IF detector 24 and *sets a gain control value for the IF amplifier 22 to provide a maximum amplitude value for the IF signal to put it close to full scale for the analog-to-digital converter (A/D) in the IF detector.*

10 (Col. 3, lines 43-47.)

Regarding the third step (entitled “RE-OPTIMIZE WB AND IF GAINS”),

15 Earls teaches that

the respective gains of the wideband and IF amplifiers may be re-optimized by *increasing the IF gain by the specified dBm and decreasing the wideband gain by the specified dBm.*

20 (Col. 3, lines 59-62.)

Earls, however, does not disclose or suggest adjusting an IF gain value based on a monitored RF amplifier gain adjustment *by an amount approximately opposite to the RF gain value.* Independent claim 1, as amended, requires “adjusting said IF gain value *based on said monitored RF amplifier gain adjustment by an amount approximately opposite to said RF gain value.*”

Thus, Earls et al. do not disclose or suggest adjusting said IF gain value based on said monitored RF amplifier gain adjustment by an amount approximately opposite to said RF gain value, as required by independent claim 1.

Additional Cited References

30 Okamoto was also cited by the Examiner for its disclosure of a receiver for receiving broadcasting signals with an OFDM communication receiver. Okamoto does not disclose or suggest, however, adjusting an IF gain value based on an RF gain adjustment.

Thus, Okamoto does not disclose or suggest adjusting said IF gain value 35 based on said monitored RF amplifier gain adjustment by an amount approximately

opposite to said RF gain value, as required by independent claim 1.

Marchok et al. were also cited by the Examiner for its disclosure of a receiver for receiving broadcasting signals with a DMT communication receiver. Marchok does not disclose or suggest, however, adjusting an IF gain value based on an
5 RF gain adjustment.

Thus, Marchok et al. do not disclose or suggest adjusting said IF gain value based on said monitored RF amplifier gain adjustment by an amount approximately opposite to said RF gain value, as required by independent claim 1.

10 Baldwin et al. was also cited by the Examiner for its disclosure of a threshold for said signal energy measurement (that) is established to prevent clipping. Baldwin et al. does not disclose or suggest, however, adjusting an IF gain value based on an RF gain adjustment.

15 Thus, Baldwin et al. do not disclose or suggest adjusting said IF gain value based on said monitored RF amplifier gain adjustment by an amount approximately opposite to said RF gain value, as required by independent claim 1.

Claim 4

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Earls et al. in view of Okamoto. In particular, the Examiner asserts that Okamoto discloses adjusting said IF gain value (FIG. 2: element SSG) based on at least one signal
20 energy measurement (FIG. 2: element 29 and col. 6, lines 40-50) performed before or after a fast Fourier transform (FFT) stage in said receiver in order to maintain a desired set point. In the Response to Arguments section of the Examiner's Answer, the Examiner asserts that the STM signal disclosed by Okamoto is "inherent(ly) a voltage or energy measurement" (FIG. 2: elements 17, 31, and 32; col. 9, lines 11-35, and col. 9, line 58, to
25 column 10, element 42). The Examiner further asserts that the setting of the RF amplifier 12 and the IF amplifier 17 in the reduced power consumption state is considered as setting "the IF amplifier 17 to the cutoff state to maintain a desired set point (zero gain) and since there is no data received in the no data received period, inherently there is no RF gain adjustment required."

Applicant maintains that Okamoto does not disclose or suggest adjusting an IF gain value based on at least one signal energy measurement performed before or after a fast Fourier transform (FFT) stage in a receiver *in order to maintain a desired set point if there is no RF gain adjustment*. Contrary to the Examiner's assertion, the 5 setting the IF amplifier 17 to the *cutoff state* does not *maintain a desired set point* (in the context of the present invention), as would be apparent to a person of ordinary skill in the art. Claim 4 requires adjusting said IF gain value based on at least one signal energy measurement performed before or after a fast Fourier transform (FFT) stage in said receiver *in order to maintain a desired set point if there is no RF gain adjustment*.

10 In addition, Okamoto teaches that "the timing signal STM thus generated in the timing signal generator 31 has, for example, a *portion of high level* corresponding to each selected data receivable *period* and another *portion of low level* corresponding to each of *periods* other than the selected data receivable period." (Col. 9, lines 16-20; emphasis added.) Thus, contrary to the Examiner's assertion, the STM signal is *not an* 15 *energy measurement* in the context of the present invention, as would be apparent to a person of ordinary skill in the art.

Thus, Earls et al., Okamoto, Marchok et al., and Baldwin et al., alone or in any combination, do not disclose or suggest adjusting said IF gain value based on at least one signal energy measurement performed before or after a fast Fourier transform (FFT) 20 stage in said receiver in order to maintain a desired set point if there is no RF gain adjustment, as required by claim 4.

Conclusion

The rejections of the cited claims under section 102 and 103 in view of 25 Earls et al., Okamoto, Marchok et al., and Baldwin et al., alone or in any combination, are therefore believed to be improper and should be withdrawn. The Examiner has already indicated that claims 5, 7, and 8 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims, and that claims 10-17 are allowed. The remaining rejected dependent claims are believed 30 allowable for at least the reasons identified above with respect to the independent claims.

The attention of the Examiner and the Appeal Board to this matter is appreciated.

Respectfully,

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Date: February 28, 2006

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Kevin M. Mason

Kevin M. Mason
Attorney for Applicant(s)
Reg. No. 36,597
Ryan, Mason & Lewis, LLP
1300 Post Road, Suite 205
Fairfield, CT 06824
(203) 255-6560

EVIDENCE APPENDIX

There is no evidence submitted pursuant to § 1.130, 1.131, or 1.132 or entered by the Examiner and relied upon by appellant.

RELATED PROCEEDINGS APPENDIX

There are no known decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 CFR 41.37.